motivations, excellent examples, detailed proofs, and a focus on those parts of mathematics that are needed in more ambitious courses on quantum mechanics and presuppose for the understanding of this detailed and complete study in mathematics.

A Mathematical Introduction to Logic - Herbert Enderton - 2001-01-23

A Mathematical Introduction to Logic, Second Edition, offers increased flexibility with topic coverage, allowing for choice in how to utilize the textbook in a course. The text is written in an especially clear, rigorous style and is aimed at the serious student interested in a detailed and thorough understanding of mathematical logic. The only background required is basic familiarity with symbolic logic.

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Understanding Robust and Exploratory Data Analysis - David C. Hoaglin - 2009-06-02

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Linear Models in Statistics - Alvin C. Rencher - 2008-01-18

The essential introduction to the theory and application of linear models—now in a valuable new edition Since most advanced statistical tools are generalizations of the linear model, it is necessary to first master the linear model in order to move forward to more advanced concepts. The linear model remains the main tool of the applied statistician and is central to the training of any statistician regardless of whether the focus is applied or theoretical. This completely revised and updated new edition successfully develops the basic theory of linear models for regression, analysis of variance, analysis of covariance, and linear mixed models. Recent advances in the methodology related to linear mixed models, generalized linear models, and the Bayesian linear model are also addressed. Linear Models in Statistics, Second Edition includes full coverage of advanced topics, such as mixed and generalized linear models, Bayesian linear models, two-way models with empty cells, geometry of least squares, vector-matrix calculus, simultaneous inference, and logistic and non-linear regression. Algebraic, geometrical, frequentist, and Bayesian approaches to both the inference of linear models and the analysis of variance are also illustrated. Through the expansion of relevant material and the inclusion of the latest technological developments in the field, this book provides readers with the theoretical foundation to correctly interpret computer software output as well as effectively use, customize, and understand linear models. This modern Second Edition features: New chapters on Bayesian linear models as well as random and mixed linear models Expanded discussion of two-way models with empty cells Additional sections on the geometry of least squares Updated coverage of simultaneous inference The book is complemented with easy-to-read proofs, real data sets, and an extensive bibliography. A thorough review of the requisite matrix algebra has been added for transitional purposes, and numerous theoretical and applied problems have been incorporated with selected answers provided at the end of the book. A related Web site includes additional data sets and SAS/R code for all numerical examples. Linear Model in Statistics, Second Edition is a must-have book for courses in statistics, biostatistics, and mathematics at the upper-undergraduate and graduate levels. It is also an invaluable reference for researchers who need to gain a better understanding of regression and analysis of variance.

Applied Linear Statistical Models - Michael H. Kutner - 2005

Applied Linear Statistical Models 5e is the long established leading authoritative text and reference on statistical modeling. For students in most any discipline where statistical analysis or interpretation is used, ALSM serves as the standard work. The text includes brief introductory and review material, and then proceeds through regression and modeling for the first half, and through ANOVA and Experimental Design in the second half. All topics are presented in a precise and clear style supported with solved examples, numbered formulae, graphic illustrations, and “Notes” to provide depth and statistical accuracy and precision. Applications used within the text and the hallmark problems, exercises, and projects are drawn from virtually all disciplines and fields providing motivation for students in virtually any college. The Fifth Edition provides an increased use of computing and graphical analysis throughout, without sacrificing concepts or rigor. In general, the 5e uses larger data sets in examples and exercises, and where methods can be automated within software without loss of understanding, it is so done.

Set Theory and Metric Spaces - Irving Kaplansky - 2020-09-10

This is a book that could profitably be read by many graduate students or by seniors in strong major programs ... has a number of good features. There are many informal comments scattered between the formal development of theorems and these are done in a light and pleasant style. ... There is a complete proof of the equivalence of the axiom of choice, Zorn’s Lemma, and well-ordering, as well as a discussion of the use of these concepts. There is also an interesting discussion of the continuum problem. ... The presentation of metric spaces before topological spaces ... should be welcomed by most students, since metric spaces are much closer to the ideas of Euclidean spaces with which they are already familiar. — Canadian Mathematical Bulletin Kaplansky has a well-deserved reputation for his expository talents. The selection of topics is excellent. — Lance Small, UC San Diego This book is based on notes from a course on set theory and metric spaces taught by Edwin Spanier, and also incorporates with his permission numerous exercises from those notes. The volume includes an Appendix that helps bridge the gap between metric and topological spaces, a Selected Bibliography, and an Index.

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